and video output with a touchscreen. Other combinations may be used, as may be desired. Furthermore, while the foregoing embodiment has been described with respect to only two screens, it will be readily appreciated that additional screens may also be used for such a multi-layer display. For example, a middle screen (not shown) can be disposed between front layered screen **118***a* and back layered screen **118***c*, with such a middle screen also being adapted for the presentation of a coordinated visual image to a viewer. Still further screens may also be implemented into the multi-layer stack, as desired.

[0058] Wager based games output by the display devices or screens in such a multi-layer display may include, for example, any video game emulation that portrays one or more reels. Typically, the gaming machine simulates 'spinning' of the video reels using motion graphics for the symbols on the reel strips and motion graphics for the mechanical components. In various particular embodiments, the use of multiple screens may be made to account for any special effects or more realistic simulations that are desired through the use of a multi-layer display. For example, reel symbols may be moved from a back display to a front display and then to the back display again as they appear to rotate or spin along their respective virtual reels. Such movement of reel symbols from one screen to another within a multi-layer display can aid in a more realistic emulation of physical mechanical reels on a processor-based gaming machine. Other details regarding the depiction of simulated reels on a multi-layer display can be found in U.S. patent application Ser. No. 11/858,695, filed on Sep. 20, 2007, and entitled "Realistic Video Reels," which application is incorporated herein by reference in its entirety and for all purposes.

[0059] Various embodiments of the present invention can involve a more realistic emulation of physical reels though additional visual techniques, which can be used on processor-based gaming machines having multi-layer displays as well as those having more traditional displays, such as a simple CRT, LCD, flat panel display, or the like. Such visual techniques can include varying the timings of reel spin lengths as well as successive reel stops, which timing variances may involve sampling the spins of actual physical reels and modeling virtual reel spin times and successive reel stop times after the sampled physical reel spins. Various levels of randomization may also be introduced into such reel spin and reel stop times, so as to more realistically simulate the slightly varying reel spin and reel stop times of actual physical reels.

[0060] Various embodiments of the present invention can also involve a more realistic emulation of physical reels though added audio techniques, which audio techniques can be used separately or in combination with one or more of the above visual techniques. Such added audio techniques can include providing audio playback of actual sounds sampled and recorded from rotating physical reels, which replayed sounds can be selected from multiple and/or lengthier sound samplings from mechanical reels that are stored in an associated memory. A separate audio track can be implemented for each virtual reel, and such separate tracks can be directed for play at a plurality of speakers, which play can be stereophonic in nature. Variances in the audio playback can also be similarly randomized, so as to more realistically simulate the slightly varying sounds of actual physical reels in motion.

[0061] Referring next to FIG. **5**, various components of an exemplary processor-based gaming machine adapted to provide more realistic emulations of physical reels both visually and audibly according to one embodiment of the present invention are illustrated in block diagram format. Processor-based gaming machine **100** contains many components that can be similar or identical to those set forth in gaming machine **10** above. For example, general speakers **132**, input devices **121** and currency acceptor **123**, as well as other peripheral devices **128**, can correspond to similar items in gaming machine **10**. As noted above, display(s) **126** can include a multi-layer display such as that shown and described with respect to FIG. **4**. In some alternative embodiments, however, it will be appreciated that various visual and audio emulation techniques disclosed herein can be presented with respect to a gaming machine having a more traditional display, rather than a multi-layer display.

[0062] One or more sound cards **143** can be used to drive general speakers **132**, and one or more video cards or controllers **144** can be used to drive display(s) **126**, which display (s) can be adapted to present virtual gaming reels **191***a*, **191***b*, **191***c*. In various embodiments involving multi-layer displays, multiple video cards or controllers **144** can be used, such as one video card or controller for each separate screen, as will be readily appreciated. Alternatively, one video card or controller can be used to drive multiple screens within a multi-layer display. In addition, although three virtual reels—and accompanying reel speakers—are shown for purposes of illustration, it will be readily appreciated that any number of virtual reels and/or reel speakers can be used. For example, gaming machine **100** can be adapted to present games involving 3, 5, 7, 9 or any other number of virtual reels. In the event that other number of virtual reels are presented, suitable adjustments to one or more of the various specialized emulation components can be provided, as may be appropriate.

[0063] As noted above, a master gaming controller **140** adapted to execute or control one or more aspects of wager based games is in communication with various other gaming machine components, either directly or via other components. For example, while master gaming controller **140** might be in direct communication with various input devices or other peripherals, one or more video cards or controllers **144** can be interspersed between the master gaming controller and display(s) **126**, such that communication to the display(s) is indirect. Various memory or storage components, designated as RAM **141** and ROM **142** might be accessible to master gaming controller **140**, and such storage components may be dedicated to the master gaming controller, or could be shared by other gaming machine components.

[0064] In addition to a multi-layer display, various other specialized components adapted to aid in the more realistic emulation of physical reels can be a part of processor-based gaming machine **100**. Such components can include a specialized reel spin timer **145** and associated memory **146**, a specialized reel sound generator **147** and associated memory **148**, and a plurality of reel speakers **149***a*, **149***b*, **149***c* adapted to present simulated physical reel sounds.

[0065] In various embodiments, each of reel speakers **149***a*, **149***b*, **149***c* can be dedicated to its own respective virtual reel, so as to provide isolated sounds for each reel, thereby improving the audio emulation of physical reels. In some embodiments, this can involve a one-to-one correspondence between virtual reels and dedicated reel speakers. Alternatively, one or more reel speakers can carry sounds for more than one virtual reel. For example, where only three reel speakers are used, each reel speaker can be dedicated to its own separate corresponding virtual reel for three reel games, but may need to